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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/775,715	02/01/2001	Mani S. Abrol	1220335-991180	7897

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EXAMINER

CHEN, CHONGSHAN

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,715

Applicant(s)

ABROL ET AL.

Examiner

Chongshan Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7, 10, 13-17, 20-24 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7, 10, 13-17, 20-24 and 29-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This action is responsive to communications filed on May 2, 2005. Claims 7, 10, 13-17, 20-24 and 29-32 are currently pending in this Office Action.

Claim Objections

2. Claim 20 claims a system. However, the system comprises instructions only without any hardware embodies the instructions. Without hardware or memory, the system will not be able to perform any operation. Therefore, examiner suggests applicant to incorporate hardware into the system to enable system to perform intend operations.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7, 10, 13-17, 20-24 and 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Diamond (US 6,269,368 B1) in view of Culliss (US 6,539,377 B1).

As per claim 7, Diamond discloses a system for user behavior based searching of a document based on a query having one or more query terms, comprising:

means for determining a feature vector associated with a document, the feature vector comprising weights for one or more terms that appear in the document (Diamond, col. 14, lines 5-52);

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means for capturing user actions in response to a list of documents produced in response to a query wherein the user actions include selecting a document from the list of documents (Diamond, col. 3, lines 1-4).

Diamond does not explicitly disclose means for modifying the feature vector for the document based on a sample of user actions captured during a query of the document so that the document is more highly ranked in response to the user actions, wherein the modifying means further comprises means for adjusting a frequency value of the terms in the feature vector that match terms in a query that produced the list of documents so that the ranking of the document is altered in response to the adjustment of the frequency values; means for storing the modified feature vector of the document wherein the feature vector for the document is modified and stored following each search session and sampled user action so that the modified feature vector of the document is utilized during and affects the results of every subsequent search session by every user; and means for returning the same document to another user with the same query at a higher ranking due to the modified feature vector of the document.

Culliss teaches modifying the feature vector for the document based on a sample of user actions captured during a query of the document so that the document is more highly ranked in response to the user actions, wherein the modifying means further comprises means for adjusting a frequency value of the terms in the feature vector that match terms in a query that produced the list of documents so that the ranking of the document is altered in response to the adjustment of the frequency values; storing the modified feature vector of the document wherein the feature vector for the document is modified and stored following each search session and sampled user action so that the modified feature vector of the document is utilized during and affects the

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results of every subsequent search session by every user; and returning the same document to another user with the same query at a higher ranking due to the modified feature vector of the document (Culliss, Fig. 1, element 30, "Alter scores in index according to selections made by first user", element 40, "receive search query from second user", element 50, "present article related to second search query to second user ranked by scores in index", col. 2, line 28 – col. 3, line 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the search system of Diamond by incorporating the means for modifying the document feature vector based on user actions as disclosed by Culliss. Because the activity of user selecting and viewing a document from a set of returned documents indicates the selected document is more relevant to the search query. Using this user feedback can rank the documents more accurately. The most relevant document will move to the top of the ranked list. This will help the user easily locate the most relevant document.

Claims 10 and 13 are rejected on grounds corresponding to the reasons given above for claim 7.

As per claim 14, Diamond and Culliss teach all the claimed subject matters as discussed in claim 13, and further teach the sampling further comprises generating a sample of the user behavior wherein the sample of the user behavior further comprises a query feature vector of the terms in a particular query and the feature vector of the one or more documents returned based on the query and viewed by the user (Diamond, col. 2, line 45 – col. 3, line 4).

As per claim 15, Diamond and Culliss teach all the claimed subject matters as discussed in claim 14, and further teach generating a sample during a sampling frequency (Diamond, col. 2, line 45 – col. 3, line 4).

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As per claim 16, Diamond and Culliss teach all the claimed subject matters as discussed in claim 13, and further teach combining the feature vector of the document with a feature vector of the query, the feature vector of the query comprising frequency values for one or more terms that appear in the query (Diamond, col. 18, lines 50-61).

As per claim 17, Diamond and Culliss teach all the claimed subject matters as discussed in claim 16, and further teach scaling the feature vector of the query based on the viewing time of the document by the user during the sampled user behavior to generate a scaled query feature vector (Culliss, col. 2, lines 45-47).

Claims 20-24 are rejected on grounds corresponding to the reasons given above for claims 13-17.

As per claim 29, Diamond and Culliss teach all the claimed subject matters as discussed in claim 7, and further teach sampling the actions of a plurality of users in order to modifying the feature vector for the document (Diamond, col. 53-59, Culliss, Fig. 1, col. 2, line 28 – col. 3, line 67).

Claims 30-32 are rejected on grounds corresponding to the reasons given above for claim 29.

Response to Arguments

5. Applicant's arguments filed on May 2, 2005 have been fully considered but they are not persuasive.

6. As per applicant's arguments regarding Diamond does not disclose determining a feature vector associated with a document, the feature vector comprising weights for one or more terms

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that appear in the document have been considered but are not persuasive. Diamond teaches calculating a TF-IDF score for the term in a document, and normalizing a vector for each document using a term weighting formula (Diamond, col. 14, lines 5-52). Therefore, Diamond teaches determining a feature vector associated with a document, the feature vector comprising weights for one or more terms that appear in the document. The arguments are not persuasive.

7. As per applicant's arguments regarding the references do not teach adjusting a frequency value of the terms in the feature vector of the document that match terms in a query have been considered but are not persuasive. Culliss teaches a user submits a first search query to the search engine. The search engine presents a list of articles related to the first search query, and alters the key term scores according to whether the article is displayed to the user, whether the article is selected and viewed by the user (Culliss, Fig. 1, col. 2, lines 28-52). The document selected and viewed by the user is a document in which the terms match the terms in the query, and the key term scores associated with the selected document is altered. Furthermore, Diamond teaches the terms and their weights are organized in a vector. Therefore, the Diamond and Culliss' combined system teaches adjusting a frequency value of the terms in the feature vector of the document that match terms in a query. The arguments are not persuasive.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chongshan Chen whose telephone number is (571) 272-4031. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chongshan Chen
August 4, 2005


JEAN M. CORRIELLUS
PRIMARY EXAMINER